

**YAKUTAT SET GILL NET FISHERY
MANAGEMENT PLAN, 1991**



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**Alaska Department of Fish and Game
Commercial Fisheries Division
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INTRODUCTION

The Yakutat area encompasses the waters of Alaska between Cape Suckling and Cape Fairweather. The area is divided into two fishing districts: the Yakataga District between Cape Suckling and Icy Cape, and the Yakutat District between Icy Cape and Cape Fairweather. All five salmon species are harvested in the Yakutat area, with sockeye, coho, and pink salmon comprising the majority of the catch in that order of importance.

Set gill net gear is the only net gear permitted in the Yakutat area. About 166 commercial set net entry permits are renewed annually. Set gill net permit holders in the Yakutat area do not have registered sites and may fish in any open fishing area. Permit holders may also move between fishing areas during the season as long as no more than one river is fished concurrently.

There are 25 unique fisheries in the Yakutat area. Most of these fisheries target sockeye salmon from mid-June through July; coho salmon dominate the catch in August and September. The only targeted pink salmon fishery occurs in the southeast portion of Yakutat Bay and harvests fish returning to Humpback Creek. Set gill net fisheries in the Yakataga District harvest primarily coho salmon.

Anticipated Salmon Returns

Total salmon catches in the Yakutat area in recent years have been below historical peak levels. Annual catches as high as 800,000, have been recorded, while the 1980-1990 average annual catch was only 430,000 fish. Historical high catches may have overexploited some Yakutat area salmon stocks. In 1990, about 530,700 salmon were harvested by set net gear (79% of the total Yakutat area salmon catch). The remainder of the catch was harvested in the commercial troll fishery.

No formal forecast program exists for Yakutat salmon returns. Preseason expectations are based on known, or estimated, parent-year spawning escapements and commercial catches, local observations of rearing conditions and, in some cases, the strength of certain year classes. The 1991 Yakutat area salmon runs are expected to be average for sockeye salmon, and average to above average for coho and pink salmon.

Fishery Management

The Yakutat set gill net fishery is managed by adjusting fishing times and area in each fishery in response to in-season assessments of run strength. These actions are taken to provide adequate spawning escapements and to allow harvests of salmon surplus to escapement goals. In-season assessment methods include both fishery performance and spawning escapement information. In the glacial systems, in-season catches are utilized for management because poor visibility prevents the accurate observation of spawning escapements.

During 1991, the major fishing areas can be expected to open on the following dates:

Yakutat District

Yakutat Bay (south of 59°40' N.lat.)	10 June
Dangerous River	10 June
Eastern Situk-Ahrnklin Lagoon (approximately 2 miles)	10 June
Manby Shore Ocean	17 June
Lost River	17 June
Situk-Ahrnklin Lagoon	17 June
Alsek River	17 June
East River	24 June
Akwe River	24 June
Remainder of the Yakutat District	24 June
Italio River	Emergency Order Opening

Yakataga District

Sockeye Season	19 June (except Tsiu River closed)
Coho Season	Emergency Order Opening

1991 SUMMER MANAGEMENT PLAN

This management plan concentrates on the major fisheries in the Yakutat area. Information on areas that are fished only occasionally is available from the Yakutat Area Management Biologist listed at the end of this plan.

Alsek River

The Alsek River, located 45 miles southeast of Yakutat, is a major transboundary river that drains a large area east of the coastal mountain range. It extends approximately 130 miles from its mouth, up-river into the Yukon Territory of Canada. The U.S./Canada border is approximately 40 miles upstream from the river mouth. The Alsek River supports large populations of chinook, sockeye, and coho salmon, and small populations of pink and chum salmon. Alaskan set gill net fisheries target on sockeye and coho salmon. Canadian subsistence and sport fisheries target sockeye and chinook salmon.

Commercial salmon landings from the Alaskan portion of the Alsek River have averaged approximately 14,400 sockeye, 3,200 coho, and 300 chinook salmon annually (1986-1990). The Canadian sport and subsistence harvest has averaged approximately 400 chinook, 2,100 sockeye, and 100 coho salmon during the same period. Sport and subsistence fisheries in the Alaskan portion of the river are relatively minor, harvesting only about 200 salmon annually.

Historically, a set gill net fishery targeting on chinook salmon was conducted during May in the Alaskan portion of the river. However, due to depressed runs, the directed fishery has been closed since 1962 and chinook salmon are harvested only incidentally during the sockeye salmon fishery in early June. The 1991 run of chinook salmon is not expected to produce fish surplus to spawning needs.

The initial Alsek River opening will be for 24 hours beginning 12:01 p.m., Monday, June 17, and extending through 12:00 noon Tuesday, June 18. This represents a two-week delay from the date scheduled in the published regulations. The delay is necessary to protect the early portion of an anticipated weak return of Klukshu River sockeye salmon. Subsequent fishing time will be based on a comparison of current-year fishery performance (catch and effort) in relation to historical performance.

To reduce the incidental harvest of chinook salmon, gill net mesh-size will be restricted to a maximum of six inches through June 31. Set gill net fishermen are encouraged to reduce the incidental harvest of chinook salmon as much as possible to aid rebuilding of the depressed Alsek River chinook salmon stock.

The Alsek River surf fishing area is expected to be open during the same periods as the in-river fishery. The surf fishing area includes the shoreline, 3/4 of a mile in each direction, from the river mouth to the outermost bar where the surf breaks. ~

East River

The East River is a short, clear river originating from the upwellings and local drainage of the eastern portion of Dry Bay. The river produces good runs of sockeye, coho and chum salmon. Commercial fishing occurs two miles upstream from the mouth, and in the adjacent ocean waters within two miles of the mouth in each direction out to 500 yards from the shore at low tide. The surf and ocean area is open during the same periods as the in-river fishery. East River salmon catches have averaged about 115,700 sockeye, 13,500 chum, and 8,500 coho salmon (1986-1990). In recent years, the East River has been the most productive sockeye salmon fishery in the Yakutat area.

The East River sockeye salmon season opens by regulation on the fourth Monday of June (June 24). The duration of weekly fishing periods and open areas will be based on East River escapement observations, effort levels, and fishery performance. A minimum aerial index escapement goal of 30,000 sockeye salmon has been established for the East River. As in recent years, up-river closures may be necessary during high water periods to reduce the harvest of poor quality fish that "back out" of the closed area.

The sockeye salmon season is expected to continue until late August. The 1987 parent-year escapement was about 34,000, and an average return would yield a surplus to spawning needs of about 100,000 fish.

Situk-Ahrnklin and Lost River

The Situk-Ahrnklin Lagoon is the site of the oldest and, historically, the most productive fishery in the Yakutat area. Located about nine miles by road from Yakutat, it normally supports the largest concentration of fishing effort in Yakutat. Fishing occurs primarily in the lagoon, although some fishing occurs at the river mouth and in the adjoining surf fishing area. Sockeye salmon comprise the major portion of the harvest during the summer; coho salmon dominate the catch during the fall season. Situk-Ahrnklin River catches have averaged about 62,800 sockeye, 38,100 coho, 18,900 pink, and 250 chinook salmon (1986-1990). The sockeye escapement goal for the Situk River drainage is 40,000 to 55,000 fish.

Based on spawner-recruit information, the 1991 Situk River sockeye salmon run is expected to be average. The 1986 parent-year Situk River sockeye escapement was 71,500 fish, exceeding the upper limit of the

escapement goal range by approximately 10,000. The 1991 Situk River sockeye catch is expected to be around 80,000 fish distributed between the Situk, Lost, Yakutat Bay and Manby Shore ocean fisheries.

The June 10 opening date for the eastern part of the Situk-Ahrnklin lagoon is set in anticipation of a surplus of Ahrnklin River sockeye. The run timing of Ahrnklin sockeye is generally earlier than Situk sockeye. Evidence of the earlier timing and strength of the Ahrnklin River sockeye was seen in last year's fishery that opened during the second week of June. Most of the 10,000 sockeye harvested in that opening, a 2.5 day period, were taken in the eastern portion of the estuary. An escapement survey the following week revealed a count of 8,500 to the Ahrnklin system. The parent-year escapements (1986 and 1987) to the Ahrnklin were good and surplus production is anticipated. During the second week of June, fishing will be confined to the eastern end of the Situk-Ahrnklin lagoon with a 2.5 day opening. After the first opening, fishing periods will be based on the run strength as indicated by fishery performance information and Situk River Weir counts. A run-timing model will be used to estimate the total Situk River sockeye run after several weeks of harvest and escapement data is available. A similar model will be used to project Situk chinook abundance.

Since chinook salmon are taken incidentally in the set gill net fishery, the Situk commercial catch of chinook is largely dependent on the fishing time allowed for sockeye. If the chinook salmon return is weak and sockeye runs are average or better, conservation actions may be necessary to reduce the incidental take of chinook salmon.

At the 1991 Board of Fisheries meeting, the Board adopted the following Situk-Ahrnklin Inlet and Lost River Chinook Management Plan:

1. If the projected escapement of chinook salmon to the Situk River Weir is less than 350 large chinook (three ocean age and older) the department will close the Situk River subsistence, commercial, and recreational fisheries, and close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200.
2. If the projected escapement of chinook salmon to Situk River Weir is between 350 and 450 large fish (three ocean age and older), the department shall:
 - A. Implement restrictions in the commercial fisheries by emergency order that shall include the following:
 - i. Establish a "non-sale" chinook salmon season in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries;
 - ii. Close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200;

- iii. Restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries.
 - B. Close the sport fishery for chinook salmon in the Situk River.
- 3. If the projected escapement of chinook salmon to Situk River Weir is between 450 and 750 large fish (three ocean age and older), the department shall:
 - A. Implement restrictions in the commercial fisheries by emergency order that shall include one or more of the following:
 - i. Establish a "non-sale" chinook salmon season in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries;
 - ii. Close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200;
 - iii. Restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries.
 - B. Restrict the sport harvest of chinook salmon in the Situk River by one or more of the following options:
 - i. Portions of the river may be closed to chinook salmon sport fishing;
 - ii. Only unbaited, artificial lures may be used;
 - iii. Only catch and release sport fishing for chinook salmon over 16 inches may be allowed.
- 4. When the projected escapement of chinook salmon to the Situk River Weir is greater than 750 large fish (three ocean age and older), the department shall:
 - A. Manage the commercial set gill net fisheries in the Situk-Ahrnklin Inlet and Lost River based on sockeye salmon run strength.
 - B. Provide a sport fishery for chinook salmon during which the bag limit is one chinook salmon over 16 inches in length and the seasonal limit from June 1 through August 31 is two chinook salmon over 16 inches in length. If a chinook salmon seasonal limit is imposed, each angler shall immediately record his catch on his Situk River chinook salmon catch record card.

Spawned-out steelhead occasionally accumulate in the Situk River until high water levels allow their return to the ocean. When the out-migration is late, there is a potential for the Situk set net fishery to harvest a portion of the out-migrating adults. Major out-migrations of spawned-out steelhead often occur following heavy rainfall. If a major out-migration is expected to occur during a scheduled gill net fishing period, the opening may be delayed for a day or two.

The Lost River is located a short distance from the Situk River. Fish from both rivers are harvested in the Lost River fishery. The Lost River is usually open for the same weekly fishing periods as the Situk River during the sockeye season. However, if extensive fishing periods become necessary for the Situk River, it may not be possible to maintain the same periods for the Lost River, as its sockeye run cannot sustain the same intensive fishing as for the larger Situk River run. Management strategy for the Lost River will depend primarily on the strength of its sockeye run.

Yakutat Bay

There are three distinct gill net fisheries in Yakutat Bay. The Monti Bay fishery occurs in the ocean waters of Yakutat Bay south of 59°40' N. latitude and opens by regulation on the second Monday of June. The Manby Shore Ocean fishery encompasses the ocean waters of Yakutat Bay north of 59°40' N. latitude and opens by regulation the third Monday of June. The Manby Shore Inland fishery, which opens by regulation on the fourth Monday of June, includes the streams along the northern shore of Yakutat Bay.

Monti Bay and Manby Shore Ocean Fisheries

Both the Monti Bay and Manby Shore Ocean fisheries harvest mixed sockeye stocks. In 1987, tag recovery data indicated that a major portion of the Monti Bay sockeye catch was of Situk River origin. Due to the high Situk River sockeye contribution to the Monti Bay fishery and its suspected contribution to the Manby Shore Ocean fishery, both fisheries will be managed to conserve or harvest Situk River sockeye from the third week in June through the third week of July. The Monti Bay fishery will open by regulation on Monday, June 10. The weekly fishing period will be limited to 4.5 days due to the mixed stock nature of the ocean fisheries, and the potentially adverse impact on weaker Yakutat area stocks.

The Manby Shore Ocean fisheries will open by regulation on Monday, June 17. Additional sockeye fishing in these areas will depend on Situk River sockeye salmon run strength assessment. Adequate harvest is expected in terminal area fisheries; however, the Monti Bay and Manby Shore Ocean fisheries are expected to be limited.

Manby Shore Inland Fishery

Management of the Manby Shore Inland fisheries, waters upstream of the mean high tide line, will be based on the availability of local stocks. During the summer, these fisheries harvest salmon primarily from Manby and Sudden Streams. A 2.5 day weekly fishing period can be expected during the initial opening period scheduled for June 24. Additional open periods will depend on fishery performance information.

Humpback Creek Fishery

The "Humpy Creek" fishery, located in the southeastern portion of Yakutat Bay, targets on pink salmon. An above average return is expected at Humpy Creek for the 1991 season given the excellent 1989 parent-year spawning escapement of 15,000. In-season management of this fishery will be based on the observed pink salmon escapement to Humpy Creek and the availability of pink salmon in the Yakutat Bay fishery. The Humpy Creek area is expected to open by emergency order in late July or early August.

Akwe River

The Akwe River is a glacial system located about 35 miles south of Yakutat. The lower seven miles of the river are wide and shallow and flow parallel to the beach before entering the ocean. The commercial fishery occurs in the lower portion of the river. The 1986-1990 average Akwe River harvest was approximately 9,400 sockeye, 9,500 coho, and 200 chinook salmon.

The Akwe River parent-year (1986 and 1987) sockeye salmon catches and escapements indicate a below average sockeye run for the 1991 season. Increased sockeye salmon production in the Akwe River in recent years has resulted in additional fishing effort. To achieve good escapements, reductions in the normal 2.5 day weekly fishing period, a reduction in the size of the fishing area, and gear restrictions have been necessary. The sockeye fishery is scheduled to open by regulation on June 24. The season should extend through early August. In-season management will be based on fishery performance and effort levels.

The Akwe River will be open upstream of the markers located about 0.5 miles above the confluence with the Italio River to the upper markers located 2.5 miles downstream from the westernmost end of the "Sand Dunes", a fishing area of about four miles.

Italo River

The Italo River, located next to the Akwe River, supports small runs of sockeye and coho salmon. The course of the Italo River changed and flowed into the lower Akwe River during the winter of 1986-1987 and both rivers now share a common river mouth. Both Italo and Akwe salmon stocks are present in this area and for some distance upstream in each river. Determination of Akwe or Italo salmon stock run strengths from fishing success in the junction area is not possible. Therefore, the junction and a portion of each river above the junction is closed to set gillnetting.

Harvest in the Italo River fishery, including the Middle and Old Italo channels, has averaged approximately 950 sockeye and 1,800 coho salmon annually (1986-1990). Historically, the Italo has produced sockeye catches of over 20,000 fish. The Italo River fishery opens by emergency order when good escapements are observed. The river has not been opened for sockeye fishing the past three years due to poor returns. The reason for the recent run failures is unknown since parent-year escapements were good.

Yakataga District

The Yakataga District, except the Tsiu River, will be open during the sockeye season. The initial open period will be on Wednesday, June 19 for a 2.5 day period, from 6:00 a.m., Wednesday through 6:00 p.m., Friday. The duration of subsequent fishing periods will depend on effort levels and fishing success. The late-week fishing period is expected to be maintained until the fall season begins on August 5.

1991 FALL MANAGEMENT PLAN

Fall fishing is primarily for coho salmon, although fall chum salmon contribute to the catches on the East River. The fall fishing season generally begins on the first Monday of August. At that time, the regulatory weekly fishing period changes in most areas to a 12:01 p.m. opening and a 12:00 noon closing time.

During the fall, set gill net fishing occurs in both the Yakutat and Yakataga Districts. In the Yakutat District, the fall coho salmon fishery occurs primarily in the same areas as the summer sockeye salmon fishery. In the Yakataga District, there are areas where only coho salmon fishing takes place.

No formal forecast for the coho salmon runs is available. However, due to good parent-year runs in most systems in 1987, the coho run is expected to be average to above average.

Yakutat District

Fall fishing will begin on August 5 in the Yakutat District, except in the East River where management will continue to be based on the sockeye salmon run strength through most of August.

In-season management of all Yakutat District fall fisheries will be based primarily on fishery performance information. In-season coho escapement information is very limited. The initial fishing periods can be expected to extend from 12:01 p.m. Monday through 12:00 noon Thursday, the normal fall season weekly gillnetting period specified by regulation.

Fishing time and area adjustments will be made on a river-by-river basis, as needed for conservation. A closed area can be expected on the Yahtse River, as in recent years, to protect schools of milling coho salmon at tributary mouths. The actual closed area will be based on in-season observations of coho schooling behavior which is related to river flow conditions. Several small coho streams are located along the forelands west of the Yahtse River to Cape Yakataga. Most of these streams have very small numbers of spawning coho and cannot support in-river set gill net fisheries. This entire area will remain closed until harvestable surpluses are evident.

Yakataga District

The major fisheries in the Yakataga District occur for coho salmon on the Kaliakh and Tsiu Rivers, located about 125 miles northwest of Yakutat. These two adjacent rivers will open by emergency order. The Tsiu River is the more productive of the two rivers; in recent years, catches have averaged 42,000 coho salmon, while the Kaliakh harvest has averaged about 14,000. Although parent-year (1987) escapement counts were not possible due to high water conditions, average catches in 1987 indicate that the 1991 harvest should also be about average.

The Tsiu River opening date and fishing periods will be determined by the observations of escapement seen above and below the regulatory markers. The Kaliakh River will be open for sockeye fishing although no effort is expected prior to the early August coho fishery. The Kaliakh River weekly fall fishing periods will normally open from 9:00 a.m. Monday through 9:00 a.m. Thursday beginning on August 5.

YAKUTAT AREA

1991 Salmon Run Projections

Sockeye

<i>Alsek</i>	Parent-year escapement 23,000 through Klukshu Weir. Projection: Continued improvement, catch probably in upper range of 15,000-20,000.
<i>East</i>	Parent-year escapement 34,000. Projection: average return of 3:9:1 would yield a catch of 100,000, escapement of 32,000.
<i>Akwe</i>	Escapement counts for 1986 and 1987 soft. If they were accurate, expect continued poor runs, catch of 2,000-5,000.
<i>Italio</i>	1986 parent-year escapement was below average; 1987 parent-year above average. Returns have been poor lately, perhaps due to changes in the river. Commercial fishery unlikely.
<i>Lost</i>	Parent-year 1,500 below average. Catches depend on Situk return and management. A strong return of local stocks is not expected.
<i>Situk</i>	Parent-year escapement of 71,500. R/S ratio improving; a return of 1.8 would be 130,000 total. Escapement of 50,000 would leave a catch of 80,000 split between the Situk, Lost, Yakutat Bay, and Manby fisheries.

Coho

<i>Tsiu/Kaliakh</i>	Escapement counts were flooded out in 1987, below average for both rivers in 1988, but final surveys were flooded out in 1988 too. Catches were average in 1987, above average in 1988. Should be better in 1990, catch over 40,000 in Tsiu. Kaliakh depends on total effort. A catch of 10,000-12,000 is likely in 1991
<i>Area Wide</i>	Parent-year escapement was good to excellent in most places, below average in just a few. Drought in 1989 may have had some effect, but if it does, it may be more noticeable in 1992. Catches should be average to above average in 1991.

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